

CLAIMS:

1. An apparatus for delivering processing gas from a vaporizer to a processing system, comprising:

a valve connected between the vaporizer and the processing system, the valve having a valve input connected to a vaporizer output and a first valve output connected to a processing system input and a second valve output connected to a bypass line; and

a controller for switching the valve between the first valve output and the second valve output.

2. The apparatus of claim 1, further comprising:

a second valve connected between a carrier gas source, a divert gas source and the vaporizer, the second valve having a first valve input connected to the carrier gas source, a second valve input connected to the divert gas source, and a valve output connected to a vaporizer input.

3. The apparatus of claim 2, wherein the controller is connected to switch the second valve between the first valve input and the second valve input.

4. The apparatus of claim 3, wherein the controller is connected to correspondingly switch the first valve and the second valve.

5. An apparatus for processing a substrate, comprising:

a chamber having a gas input;

a vaporizer;

a valve connected between the vaporizer and the chamber, the valve having a valve input connected to a vaporizer output and a first valve output connected to the chamber gas input and a second valve output connected to a bypass line; and

a controller for switching the valve between the first valve output and the second valve output.

6. The apparatus of claim 5, further comprising:

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a second valve connected between a carrier gas source, a divert gas source and the vaporizer, the second valve having a first valve input connected to the carrier gas source, a second valve input connected to the divert gas source, and a valve output connected to a vaporizer input.

7. The apparatus of claim 5, further comprising:

at least one intermediate valve connected between the gas source and at least one three-way valve.

8. The apparatus of claim 5, wherein the gas source comprises a plurality of gas supplies.

9. The apparatus of claim 5, further comprising:

at least one input valve connected between the gas source and at least one three-way valve, the input valve having a plurality of inputs selectably connected to a plurality of gas supplies of the gas source and an output connected to the input of the three-way valve.

10. The apparatus of claim 9, wherein the controller is connected to switch the second valve between the first valve input and the second valve input.

11. The apparatus of claim 10, wherein the controller is connected to correspondingly switch the first valve and the second valve.

12. A method for delivering processing gas from a vaporizer to a processing system, comprising:

connecting a valve between the vaporizer and the processing system, the valve having a valve input connected to a vaporizer output and a first valve output connected to a processing system input and a second valve output connected to a bypass line; and

selectively switching the valve between the first valve output and the second valve output.

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13. The method of claim 12, further comprising:
stabilizing a vaporizer output before switching the valve to the first valve output.
14. The method of claim 12, further comprising:
initiating vaporization of a source material before a vaporized gas of the source material is needed for processing while the valve is switched to the second valve output; and
switching the valve to the first valve output when the vaporized gas of the source material is needed for processing.
15. The method of claim 12, further comprising:
connecting a second valve between a carrier gas source, a divert gas source and the vaporizer, the second valve having a first valve input connected to the carrier gas source, a second valve input connected to the divert gas source, and a valve output connected to a vaporizer input; and
selectively switching the second valve between the first valve input and the second valve input.
16. The method of claim 15 wherein the first and second valves are correspondingly switched.
17. An apparatus for delivering processing gas from a vaporizer to a processing system, comprising:
a valve means for selectively delivering gas to a processing system input and to a bypass line, the valve means connected between the vaporizer and the processing system; and
a controller means for switching the valve means between the processing system input and to a bypass line.
18. The apparatus of claim 17 wherein the valve means comprises a valve having a valve input connected to a vaporizer output and a first valve output connected to a processing system input and a second valve output connected to a bypass line.

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19. The apparatus of claim 18, further comprising:

a second valve means connected between a carrier gas source, a divert gas source and the vaporizer, the second valve means having a first valve input connected to the carrier gas source, a second valve input connected to the divert gas source, and a valve output connected to a vaporizer input.

20. The apparatus of claim 19 wherein the controller means is connected to switch the second valve between the first valve input and the second valve input.

21. The apparatus of claim 20, wherein the controller means is connected to correspondingly switch the first valve means and the second valve means.